

Table 4. Soil Descriptions for Fluvial Deposit and Riverwash Surface Soil Types - PRELIMINARY - FOR RESPONSE  
Columbia Falls Aluminum Company, LLC, Columbia Falls, Montana

USGS Surface Soil Types (FIGURE 3)		NRCS Soil Types and Descriptions (FIGURE 4)				
General Soil Code	Primary Soil Type	Detailed Soil Code	Description	Landform	Parent Material	Typical Profile
UPSTREAM						
Qal	Alluvial Deposits	10-2	Flu vents, stream bottoms	Flood plains	Alluvium	29 to 60 inches: very gravelly loamy sand
		10-3	Aquepts, stream bottoms	Flood plains	Alluvium	0 to 7 inches: gravelly loam 7 to 18 inches: very gravelly sandy loam 18 to 60 inches: extremely gravelly sand
		23-7	Adaptec Cry boralfs-Andic Cryochrepts complex, rolling	Mountain slopes	NA	0 to 3 inches: silt loam 3 to 11 inches: silt loam 11 to 29 inches: very gravelly silt loam 29 to 43 inches: very gravelly clay loam 43 to 60 inches: very gravelly silt loam
		26L-7	Glossic Cryoboralfs, till substratum, rolling	Moraines	Till	1 to 7 inches: silt loam 7 to 11 inches: gravelly silt loam 11 to 18 inches: gravelly silt loam 18 to 24 inches: gravelly silty clay loam 24 to 35 inches: gravelly silty clay loam 35 to 67 inches: gravelly silt loam
		27-7	Dystic Eutrochrepts, till substratum	Kames, kettles, terraces	Till	3 to 9 inches: very gravelly silt loam 9 to 18 inches: extremely cobbly sandy loam 18 to 31 inches: extremely cobbly sandy loam 31 to 60 inches: very cobbly loamy sand, very gravelly loamy sand, extremely gravelly sandy loam
		27-8	Dystic Eutrochrepts, till substratum, steep	Terraces, kames, kettles	Till	3 to 9 inches: very gravelly silt loam 9 to 18 inches: extremely cobbly sandy loam 18 to 31 inches: extremely cobbly sandy loam 31 to 60 inches: very cobbly loamy sand, very gravelly loamy sand, extremely gravelly sandy loam
		28-7	Dystic Eutrochrepts, outwash substratum	Terraces	Outwash	3 to 9 inches: silt loam 9 to 18 inches: extremely gravelly loam 18 to 31 inches: extremely gravelly loam 31 to 60 inches: very cobbly loamy sand, very gravelly loamy sand, extremely gravelly sandy loam
		31	Boralfs-Ochrepts complex, landslide deposits	Benches on landslides	Landslide deposits derived from metasedimentary rocks	0 to 8 inches: silt loam 8 to 17 inches: very gravelly silt loam 17 to 31 inches: very gravelly clay loam 31 to 60 inches: very gravelly silt loam
		74	Ochrepts, very steep	NA	Glacial drift or material derived from metasedimentary rocks	0 to 1 inches: slightly decomposed plant material 1 to 20 inches: gravelly sandy loam 20 to 29 inches: very gravelly sandy loam 29 to 44 inches: extremely cobbly loamy coarse sand

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		102B	Broad Canyon, stony-Parkcity-Jurvannah, frequently flooded families, complex, 0 to 4 percent slopes	Stream terraces	Alluvium derived from metasedimentary rock	0 to 7 inches: very gravelly sandy loam 7 to 15 inches: extremely gravelly sandy loam 15 to 60 inches: very gravelly sandy clay loam
		900A	Water-Riverwash association	NA	NA	NA
		W	Water	NA	NA	NA
DOWNSTREAM						
Qal	Alluvial Deposits	27-7	Dystric Eutrochrepts, till	Kames, kettles,	Till	3 to 9 inches: very gravelly silt loam 9 to 18 inches: extremely cobbly sandy loam
		Aa	Alluvial land, poorly drained	NA	NA	20 to 50 inches: stratified gravelly sandy loam to silty clay loam 50 to 60 inches: stratified gravelly loamy sand to coarse sandy loam
		Bb	Banks very fine sandy loam, 0 to	Flood plains	Sandy alluvium	0 to 3 inches: loamy fine sand 3 to 60 inches: loamy fine sand
		Bn	Blanchard loamy fine sand, 0 to 3	Terraces	Wind reworked alluvium	to 7 inches: fine sand 7 to 60 inches: fine sand
		Bo	Blanchard loamy fine sand, 3 to 7	Dunes	Eolian deposits	0 to 7 inches: fine sand 7 to 60 inches: fine sand
		Ca	Chamokane soils, 0 to 3	Flood plains	Sandy alluvium	0 to 7 inches: fine sandy loam 7 to 24 inches: fine sandy loam
		Cb	Chamokane soils, 3 to 7	Flood plains	Sandy alluvium	0 to 7 inches: loam 7 to 24 inches: fine sandy loam
		Cc	Chamokane and Banks soils, 0 to	Flood plains	Sandy alluvium	0 to 3 inches: loamy fine sand 3 to 60 inches: loamy fine sand
		Cd	Corvallis silty clay loam, 0 to 3	Flood plains	Silty alluvium	0 to 8 inches: silty clay loam 8 to 11 inches: silty clay loam
		Fh	Flathead-Mires loams, 0 to 3	Terraces	Alluvium	0 to 16 inches: loam 16 to 26 inches: fine sandy loam
		Kzd	Kiwanis fine sandy loam, 0 to	Stream terraces	Alluvium	0 to 9 inches: fine sandy loam 9 to 39 inches: fine sandy loam
		Kzf	Kiwanis loam, 3 to 9 percent	Stream terraces	Alluvium	0 to 7 inches: loam 7 to 39 inches: fine sandy loam
		Kzg	Kiwanis-Birch fine sandy loams,	Stream terraces	Alluvium	0 to 9 inches: fine sandy loam 9 to 39 inches: fine sandy loam
		Mg	Mires gravelly loam, 0 to 3	Terraces, outwash fans	Outwash	0 to 8 inches: gravelly loam 8 to 18 inches: very gravelly loam
		Mh	Mires gravelly loam, 3 to 7	Terraces, outwash fans	Outwash	0 to 8 inches: gravelly loam 8 to 18 inches: very gravelly loam
		Mm	Mires gravelly loam, 12 to 30	Terraces, outwash fans	Outwash	0 to 6 inches: gravelly loam 6 to 15 inches: very gravelly sandy loam
		Mn	Mires loam, 0 to 3 percent slopes	Terraces, outwash fans	Outwash	0 to 14 inches: loam 14 to 18 inches: very gravelly loam
		Mr	Mountainous land	Moraines	Glacial till	5 to 18 inches: loam 18 to 26 inches: gravelly silt loam
		Ms	Muck and peat	Flood plains	NA	0 to 8 inches: peat 8 to 28 inches: peat

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		Rc	Riverwash	Flood plains	Flooded and ponded soils	Not available
		Sp	Swims silt loam, 3 to 7 percent	Terraces	Alluvium	0 to 1 inches: slightly decomposed plant material 1 to 5 inches: silt loam
		Sr	Swims silty clay loam, 0 to 4 percent slopes	Terraces	Alluvium	0 to 1 inches: slightly decomposed plant material 1 to 5 inches: silty clay loam 5 to 12 inches: silty clay loam 12 to 26 inches: silt loam 26 to 55 inches: stratified very fine sandy loam to silty clay loam 55 to 60 inches: loamy fine sand

Source: Geologic and Structure Maps of the Kalispell Quadrangle, Montana, and Alberta and British Columbia (Whipple, et al., 1992); and United States Department Of Agriculture Natural Resources Conservation Service Soil Survey